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EXAMINER

HASSAN, AURANGZEB

ART UNIT	PAPER NUMBER
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2182

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/663,384	Applicant(s) LU ET AL.	
	Examiner AURANGZEB HASSAN	Art Unit 2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5,6,9-15,19,20 and 22-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,6,9-15,19,20 and 22-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 9, 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Applicant's Admitted Prior Art (figure 1, paragraphs [0012—0018] of current application, hereinafter "AAPA").

3. As per claims, 1, 9, 11 and 12 AAPA teaches a method, system and a recording medium comprising:

performing a first backup copy (primary copy, figure 1) of data stored in a data source, wherein said performing of first backup copy further comprises:

dividing the data in the data source into at least a first portion of data (first portion stored in 26, figure 1) and a second portion of data (second portion stored in 30, figure 1), the data comprising multiple file types (files which are accessed frequently and files that are not accessed frequently, paragraph [0014]), and;

transferring the first and second portion of data from the data source to a first storage medium (26, figure 1) and a second storage medium (30, figure 1) using a first data stream (50 to 26, figure 1) and a second data stream (50 to 30, figure 1) respectively to create the first backup copy of the data;

identifying the multiple file types of data in the first and second portions of data (administrator allows for data identification, paragraph [0014]);

determining based at least upon the file types if the first portion of data and the second portion of data in the first backup copy can be combined (paragraph [0015]);

if first portion of data and the second portion of data can be combined, performing a second backup copy of the first and second portions of data, wherein the second backup copy saves the first and second portions of data in a combined format (combine into storage medium 40, figure 1), wherein the performing of the second backup copy comprises:

transferring the first and second portion of the first backup copy of the data from the first and second storage medium to a third storage medium (26 and 30 are combined into 40 via 50a) by combining data streams from the first and second storage mediums, and

storing on the third storage medium, the additional copies of the data by storing in a combined format, the first and second portions of the first backup copy to create the second backup copy (additional portions from 32 and 34 into 40); and restoring the first portion of data to the data source by retrieving the first portion of data from the combined format of the second backup copy (restoring the data from the second backup, paragraph [0019]).

(As per claim 9) a data source (24, figure 1); a media agent (26, figure 1) connected to the data source; a management server (21, figure 1) connected to the media agent, said management server storing a storage policy (20, figure 1).

The Examiner notes that the claims do not necessitate any parallel processing and do not necessitate the advantages therein to avoid mounting and un-mounting or those contained in paragraphs [0018 - 0020] in order to increase efficiency of storage management systems.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 5, 6, 9 – 15 and 19 – 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amundson et al. (US Patent Number 6,154,852 hereinafter “Amundson”) in view of AAPA.

6. As per claim 1 Amundson teaches a method, system and a recording medium comprising:

performing a first backup copy of data stored in a data source, wherein said performing of the first backup copy further comprises (multiple requests are done simultaneously, column 8, lines 10 – 15 and recovery is done for one or more objects, column 12, lines 14 – 17):

dividing the data in the data source into at least a first portion of data and a second portion of data (File Data BLK, element 408, figure 4, column 4, lines 26 – 30);

transferring the first and second portion of data from the data source to a first storage medium and a second storage medium (tape 1 and 2, element 118, figure 2) using a first data stream and a second data stream respectively to create the first backup copy of the data (column 3, lines 22 – 49);

determining if the first portion of data and the second portion of data in the first backup copy can be combined (collaborative file ID 150 provides for a validation of the recovery data recombination process, figure 2, column 6, lines 1 – 22); and

if first portion of data and the second portion of data can be combined, performing a second backup copy (figure 9) of the first and second portions of data, wherein the second backup copy saves the first and second portions of data in a combined format (column 12, lines 13 – 34, recovery process is backing up the data to a third storage medium by selecting the data from the first backup and combining it into a recovered storage medium), wherein the performing of the second backup copy comprises:

transferring the first and second portion of the first backup copy of the data from the first and second storage medium to a third storage medium by combining data streams from the first and second mediums, and (recovery can be performed using any number of tape drives from a single, column 12, lines 13 – 34, in the case of the second backup copy first and second tapes are selected along with the associated media definitions in order to recover onto a third tape as seen in column 12, lines 47 - 55)

storing on the third storage medium, the additional copies of the data by storing in a combined format, the first and second portions of the first backup copy to create the second backup copy (user specifies additional copies via existing media definitions, column 12, lines 18 – 26); and restoring the first portion of data to the data source by retrieving the first portion of data from the combined format of the second backup copy (upon recovery completion the media definition requested is restored, column 12, lines 50 – 55).

Amundson teaches various types of data in the data stream but does not explicitly teach identifying the multiple file types.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the method of Amundson to explicitly disclose the different processing of the multiple file types already included therein. One of ordinary skill in the art would be motivated to make such modification in order to enhance data distribution in parallel devices (column 6, lines 32 – 34).

7. Amundson as modified by the teachings of claim 1 above, as per claims 9 and 11 Amundson teaches a system and a recording medium comprising:

copying data from a data source to a plurality of storage media wherein said copying comprises:

dividing the data in the data source into at least a first portion of data and a second portion of data (File Data BLK, element 408, figure 4, column 4, lines 26 – 30);

transferring the first and second portion of data from the data source to a first storage medium and a second storage medium (tape 1 and 2, element 118, figure 2) using a first data stream and a second data stream respectively (column 3, lines 22 – 49);

determining if the first portion of data and the second portion of data can be combined (collaborative file ID 150 provides for a validation of the recovery data recombination process, figure 2, column 6, lines 1 – 22) based on files types of data contained by the first and second portions of data (column 6, lines 30 – 53); and

transferring the first and second portion of data from the first and second storage medium to a third storage medium using a third combined data stream (recovery can be performed using any number of tape drives from a single, column 12, lines 13 – 34) to create additional copies of the first and second portions of data wherein the additional copies store the first and second portions of data in a combined format (user specifies additional copies via existing media definitions, column 12, lines 18 – 26); and restoring the first portion of data by retrieving the first portion of data from the combined format of the additional copies stored in the third storage medium (upon recovery completion the media definition requested is restored, column 12, lines 50 – 55).

(As per claim 9), a management server (element 102, figure 1), a media agent connected to the management server (I/O Adapter, element 114), said management server storing a storage policy (figure 5b), the media agent is configured to access the storage policy to determine if the first and second portions of data should be combined (validation of the collaboration, column 6, lines 1 – 16), a plurality of storage media

connected to the media agent (tape drive 1 – N, element 118, figures 1 and 2), and a data source (file data object, element 136, figure 2) connected to the media agent.

8. Amundson as modified by the teachings of claim 1 above, as per claim 12, Amundson teaches a method for transferring data in a storage system comprising:

dividing a data source into at least a first and a second portion of data (File Data BLK, element 408, figure 4, column 4, lines 26 – 30);

transferring the first and second portion of data from the data source to a first number of pieces of storage media (multiple tape drives, element 118, figure 1 and 2, column 3, lines 22 – 49);

accessing user input regarding whether the first and second portions of data should be combined (user specifies when to begin recovery of data, combining first and second portion of data, column 12, lines 14 – 17);

determining if the first portion of data and the second portion of data are combinable (collaborative file ID 150 provides for a validation of the recovery data recombination process, figure 2, column 5, lines 1 – 22) based on files types of data contained by the first and second portions of data (column 6, lines 30 – 53); and

transferring the first and second portion of data from the first number of pieces of storage media to a second number of pieces of storage media, the second number being less than the first number (recovery can be performed using any number of tape drives from a single, column 12, lines 13 – 34).

The examiner interprets the first and second stream, as Amundson teaches, to represent the connection between the first two tape drives in the backup process respectively. The examiner further interprets the recovery process combining at least the first and second storage media into the third single recovery tape drive media. Amundson teaches a system where a primary set of streams are used in a backup process and upon completion a recovery process combines data from the backup tapes into the recovery tapes.

9. Amundson as modified by the teachings of claim 1 above, as per claims 2 and 10 Amundson teaches a method and a system, wherein the transfer from the first and second storage medium to the third storage medium is performed in chunks (split into reasonable chunks, column 11, lines 36 – 47).

10. Amundson as modified by the teachings of claim 1 above, as per claim 5, Amundson teaches a method wherein the transfer using the third data stream is performed based on a client identification of the first and second portion of data (Collaborative File ID, element 150, figure 2, column 5, lines 25 – 32).

11. Amundson as modified by the teachings of claim 1 above, as per claim 6, Amundson teaches a method wherein the transfer using the third data stream is performed based on respective stream numbers of the first and second streams (column 6, lines 1 – 14).

The collaborative file id allows for proper data stream recombination in the recovery stage as taught by Amundson.

12. Amundson as modified by the teachings of claim 1 above, as per claim 13, Amundson teaches a method additionally comprising providing a user notification if the first portion of data and the second portion of data cannot be combined (status for user, column 5, lines 7 – 18).

13. Amundson as modified by the teachings of claim 1 above, as per claim 14, Amundson teaches a method wherein the first portion of data is associated with a first application and the second portion of data is associated with a second application (multiple user applications 131, figure 2).

14. Amundson as modified by the teachings of claim 1 above, as per claim 15, Amundson teaches a system wherein the first storage medium has a faster access time than the third storage medium (faster access time of the first storage medium can be modified at the user's discretion to achieve faster backup and restore, column 1 lines 29 – 32).

15. Amundson as modified by the teachings of claim 1 above, as per claim 19, Amundson teaches a system comprising an archive module configured to store at least

one storage policy relating to transferring the first and second portions of data (storage policy is the save/restore data policy, column 4, lines 26 – 55).

16. Amundson as modified by the teachings of claim 1 above, as per claim 20, Amundson teaches a system wherein the media agent is further configured to access the storage policy to determine if the first portion of data and the second portion of data are combinable (collaborative file ID 150 provides for a validation of the recovery data recombination process, figure 2, column 5, lines 1 – 22).

17. Amundson as modified by the teachings of claim 1 above, as per claim 21, Amundson teaches a method comprising deleting the other of the plurality of primary copies of the data source data (as interpreted from the 35 U.S.C. 112 rejection above, loss of media in the process, column 6, lines 61 – 65).

18. Amundson as modified by the teachings of claim 1 above, as per claim 22, Amundson teaches a method wherein the user input is stored in a storage policy (in order to begin recovery the user must initiate the process, column 12, lines 14 – 17 which dictates and is in the storage policy).

19. Amundson as modified by the teachings of claim 1 above, as per claim 23, Amundson teaches a method wherein the storage policy further maps the first portion of data and second portion of data to physical locations of, respectively the first storage

medium and the second storage medium (physical tape drives are allocated and load balancing utilizes descriptors for mapping the portions of data, column 3, lines 50 – 67).

20. Amundson as modified by the teachings of claim 1 above, as per claim 24, Amundson teaches a method comprising providing a graphical user interface for receiving the user input (User Interface 110, figure 1).

21. Amundson as modified by the teachings of claim 1 above, as per claim 25, Amundson teaches a method wherein said determining if the first portion of data and the second portion of data can be combined comprises identifying the type of data in the first and second portions of data (type has been identified for writing, column 6, lines 35 – 38).

22. Amundson as modified by the teachings of claim 1 above, as per claim 26, Amundson teaches a method wherein said receiving comprises presenting the user with a form element through the user interface, requesting whether or not the first and second portions of data should be combined (via user interface adapter 110, figure 1, user makes selections, column 12, lines 13 – 55).

Response to Arguments

23. All of the Applicant's arguments directed to amendments corresponding to claims 1, 2, 5, 6, 9 – 15 and 19 – 25 have been considered but are moot in view of the new ground(s) of rejection.

In order to better understand the new grounds of rejection the Examiner notes that the arguments are not persuasive and the rejection therefor is elaborated below.

The Applicant argues that Amundson does not teach a second backup copy wherein the first and second portions of the first backup are copied in a combined format to create the second backup copy and retrieving the first portion of data from the combined format of the second backup copy.

The Examiner respectfully disagrees. Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

Although Amundson does not explicitly label the recovery process with the same term of "second backup copy" of the current application, the prior art has all of the functionality necessitated by the claims. In column 12, lines 23 – 24 and lines 47 – 55, Amundson elaborates that the first and second portions which were stored on the first and second tape drives, as rejected above, can be recovered by combining the data. The objective of the recovery process is to retrieve data according to a user specified media definition as seen in column 12, lines 18 – 23. Once the recovery process is complete, the data contained in the dedicated storage medium can be accessed by the

user to "retrieve" the portion of data from the second backup copy. All of the data in the second backup copy originates from the first backup copy.

The arguments of obviousness with respect to newly amended claim limitations are moot and are rejected accordingly.

Conclusion

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AURANGZEB HASSAN whose telephone number is (571)272-8625. The examiner can normally be reached on Monday - Friday 9 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571)272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Tariq Hafiz/
Supervisory Patent Examiner, Art Unit 2182